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SPECIAL DATA COLLECTION SYSTEM (SDCS) EVENT REPORT,
NOVAYA ZEMLYA, 21 OCTOBER 1975

K. J. Hill, et al

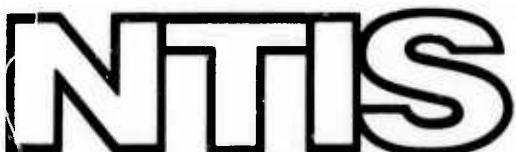
Teledyne Geotech

Prepared for:

Air Force Technical Applications Center

13 January 1976

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SPECIAL DATA COLLECTION SYSTEM EVENT REPORT Novaya Zemlya, 21 October 1975

K.J. Hill, M.S. Dawkins, R.R. Baumstark, and M.D. Gillispie
Alexandria Laboratories

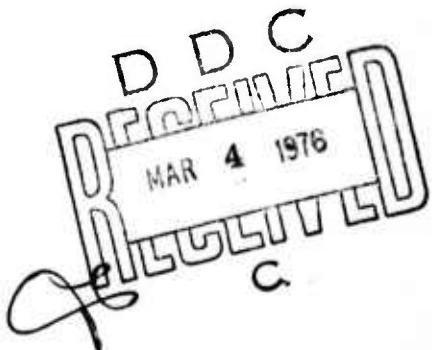
Teledyne Geotech, 314 Montgomery Street, Alexandria, Virginia 22314

January 1976

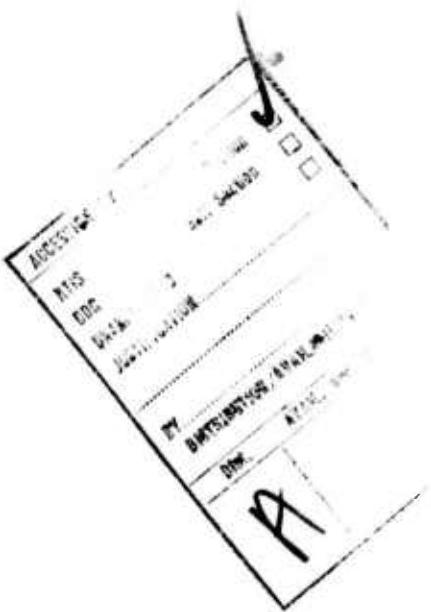
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER SDCS-ER-75-55 ✓	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) SPECIAL DATA COLLECTION SYSTEM (SDCS) Event Report	5. TYPE OF REPORT & PERIOD COVERED Technical ✓	
Novaya Zemlya, 21 October 1975	6. PERFORMING ORG. REPORT NUMBER F08606-74-C-0013 ✓	
7. AUTHOR(s) Hill, K. J., Dawkins, M. S., Baumstark, R. R., and Gillespie, M. D.	8. CONTRACT OR GRANT NUMBER(s) F08606-74-C-0013 ✓	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Teledyne Geotech ✓ 314 Montgomery Street Alexandria, Virginia 22314	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS T/4703	
11. CONTROLLING OFFICE NAME AND ADDRESS Defense Advanced Research Projects Agency Nuclear Monitoring Research Office 1400 Wilson Blvd.-Arlington, Virginia 22209	12. REPORT DATE 13 January 1976	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) VELA Seismological Center 312 Montgomery Street Alexandria, Virginia 22314	13. NUMBER OF PAGES 22	
16. DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED.	15. SECURITY CLASS. (of this report) Unclassified	
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		

SDCS EVENT REPORT NO. 55

Novaya Zemlya, 21 October 1975

This event report contains seismic data from the Special Data Collection System (SDCS), and other sources for the above event. Published epicenter information from seismic observations is:

	"P" Arrival	Origin Time	Lat.	Long.	m_b	M_s
NORSAR	12:04:37.3	11:59:59	74 N	055 E	6.9	N/A
Hagfors	12:04:34.9	12:00:07	75 N	050 E	N/A	5.3

Using SDCS stations, LASA and NORSAR, the epicenter location and magnitudes become

11:59:57.4 72.9N 055.4E 6.5 4.8

All SDCS stations were operational during this period.

Short-period signals associated with this event were recorded at all SDCS stations, LASA and NORSAR. Horizontal SP channels at HN-ME, FN-WV, CPSO and WH2YK were rotated. At RK-ON, horizontal SP channels were not rotated because the SP transverse channel was inoperative.

Long-period signals were recorded at WH2YK, CPSO, HN-ME, FN-WV, ALPA, LASA and NORSAR. Horizontal LP channels at HN-ME, FN-WV, CPSO and WH2YK were rotated. At RK-ON the analog tape ended before arrival of the LP signal. Validity of the ALPA and NORSAR long-period vertical beams is uncertain and horizontal beams were not included because of program recovery problems. LASA long-period data are recoverable in segment lengths of 6 minutes 40 seconds; two segments are included in this report.

Scaling factors on plots are millimicrons at 1 Hz (not corrected for instrument response) with the exception of LASA and NORSAR short-period plots. LASA SP scaling factors are millimicrons per inch. Scaling factors are not reported for NORSAR short-period.

STATION DESCRIPTION

SITE CODE	LOCATION	SITE COORDINATES			ELEVATION METERS	INSTRUMENTATION	
		DEG	MIN	SECS		SHORT-PERIOD	LONG-PERIOD
ALPA	Alaska	65	14	00.0	N	626	None
		147	44	36.0	W		31300
CPSO	McMinnville, Tennessee	35	35	41.4	N	574	6480 V 7515 H
FN-WV	Franklin, West Virginia	38	32	58.0	N	910	KS36000
LASA	Billings, Montana	46	41	19.0	N	744	HS10
		106	13	20.0	W		7505A V 8700C H
HN-ME	Houlton, Maine	46	09	43.0	N	213	18300
		067	59	09.0	W		SL210 V SL220 H
NORSAR	Kjeller, Norway	60	49	25.4	N	379	HS10
		010	49	56.5	E		7505A V 8700C H
RK-ON	Red Lake, Ontario	50	50	20.0	N	366	18300
		093	40	20.0	W		SL210 V SL220 H
WH2YK	White Horse, Yukon	60	41	41.0	N	853	18300
		134	58	02.0	W		SL210 V SL220 H

Note: The orientation of the radial instruments at FN-WV is assumed to be $316^\circ + 5^\circ$ based on empirical data (event recordings). Rotation, where performed, is referenced to this azimuth and may be questionable.

HYPOCENTER DETERMINATION

INPUT FOR EVENT
 12:00:00.0 73.001N 21 OCT 75
 54.000E 0KM.

STA.	ARRIVAL	RESIDUALS		DIST.	AZ.
		CALC	REST		
NAO	12 04 37.3	-0.0	0.0	20.6	257.6
WH2YK	12 08 24.8	-0.1	0.0	46.5	7.0
RK-CN	12 09 26.6	-0.3	-0.2	54.7	336.5
HN-ME	12 09 29.0	-0.0	0.0	55.0	314.9
IAC	12 10 04.8	0.4	0.4	60.0	345.5
PN-WV	12 10 35.8	0.7	0.6	64.6	322.1
CPC	12 10 59.4	-0.8	-1.0	68.5	326.6

67 HERRIN TRAVEL TIME TABLES

ORIGIN	LAT.	LCNG.	DEPTH (KM)	SDV	IT	STA
12:00:01.0	72.748N	55.727E	34. CALC	0.5	3	7
11:59:57.4	72.912N	55.436E	0. REST	0.5	3	7

CALC	REST
2 . 1	2 . 1
3 . 0	3 . 0
0 0 0 0	0 0 0 0
0 1 0 0	0 1 0 0
0 - 0	0 - 0
0 . 0	0 . 0

CHI2 COVERAGE ELLIPSE; 95 PER CENT CONF..LEVEL, SDV= 1.16
 MAJOR 173.1KM. MINOR 26.4KM. AZ= 137 AREA= 14368 SQ.KM. BEST

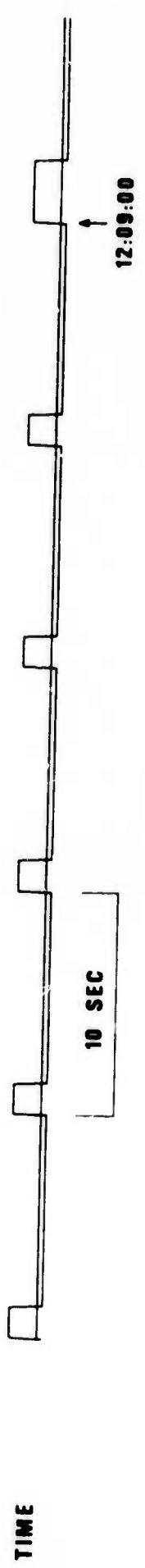
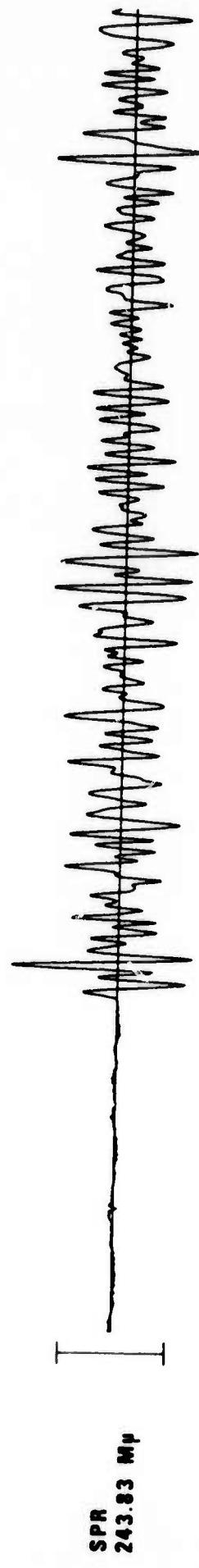
DATA SUMMARY

INPUT FOR EVENT 21 OCT 75
 12:00:00.0 73.001N 54.000E 0KM.

STA.	PHASE	ARRIVAL			INST	PER	MT	MAGNITUDE			DIST
		TIME						MP	MS	DIA	
NAO	EP	12 04	37.3	AB	0.7	9565.	6.74				20.6
NAO	LR	12 14	49.0	LPZ	15.0	1428.			5.59		20.6
ALPA	LR	12 25	56.0	LPZ	18.0	35.			4.28		41.2
WH2YK	EP	12 08	24.8	SPZ	0.7	423.	6.17				46.5
WH2YK	IR	12 29	50.0	LPZ	21.0	23.			4.15		46.5
BK-CN	EP	12 09	26.6	SPZ	0.7	9999.					
HN-ME	EP	12 09	29.0	SPZ	0.9	9999.					
HN-ME	LQ	12 32	32.0	IPT	22.0	125.					
HN-ME	LR	12 35	11.0	LPZ	20.0	83.			4.78		55.0
LAC	EP	12 10	04.8	SAB	1.0	9999.					
LAC	LR	12 38	33.0	LPZ	17.0	240.			5.28		60.0
FN-WV	EP	12 10	35.8	SPZ	0.9	9999.					
FN-WV	LQ	12 33	52.0	LPT	32.0	39.					
FN-WV	LR	12 40	36.0	LPZ	17.0	185.			5.20		64.6
CFC	EP	12 10	59.4	SPZ	0.8	9999.					
CFO	LQ	12 38	24.0	LPT	24.0	42.					
CPO	LR	12 42	15.0	LPZ	20.0	95.			4.93		68.5

ORIGIN	LAT.	LONG.	DEPTH (KM)	MAG	SDV	STA	LPMAG	LPSDV	LPSTA
12:00:01.0	72.748N	55.727E	34. CAIC	6.43	0.47	2	4.77	0.5	6
11:59:57.4	72.912N	55.436E	0. REST	6.46	0.40	2	4.77	0.5	6

WH2YK 21 OCT 75



5 <

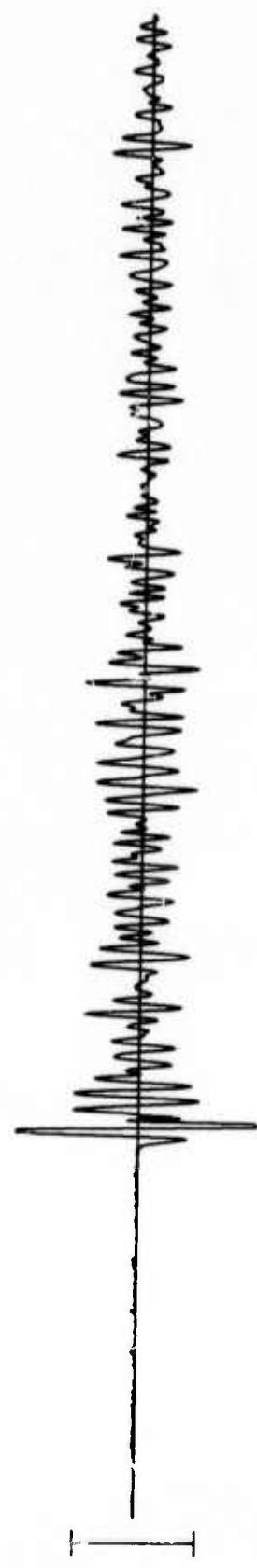
RK-ON 21 OCT 75

12:09:26.6

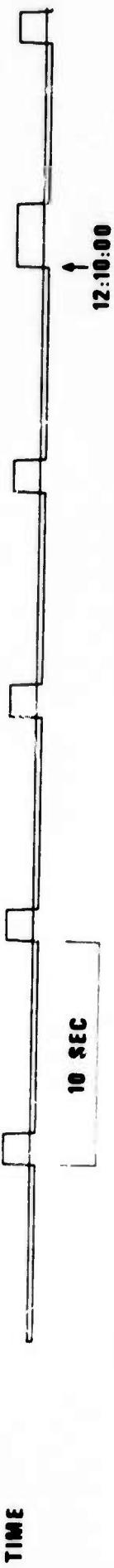
SPR
710.56 MHz



SPR
756.61 MHz

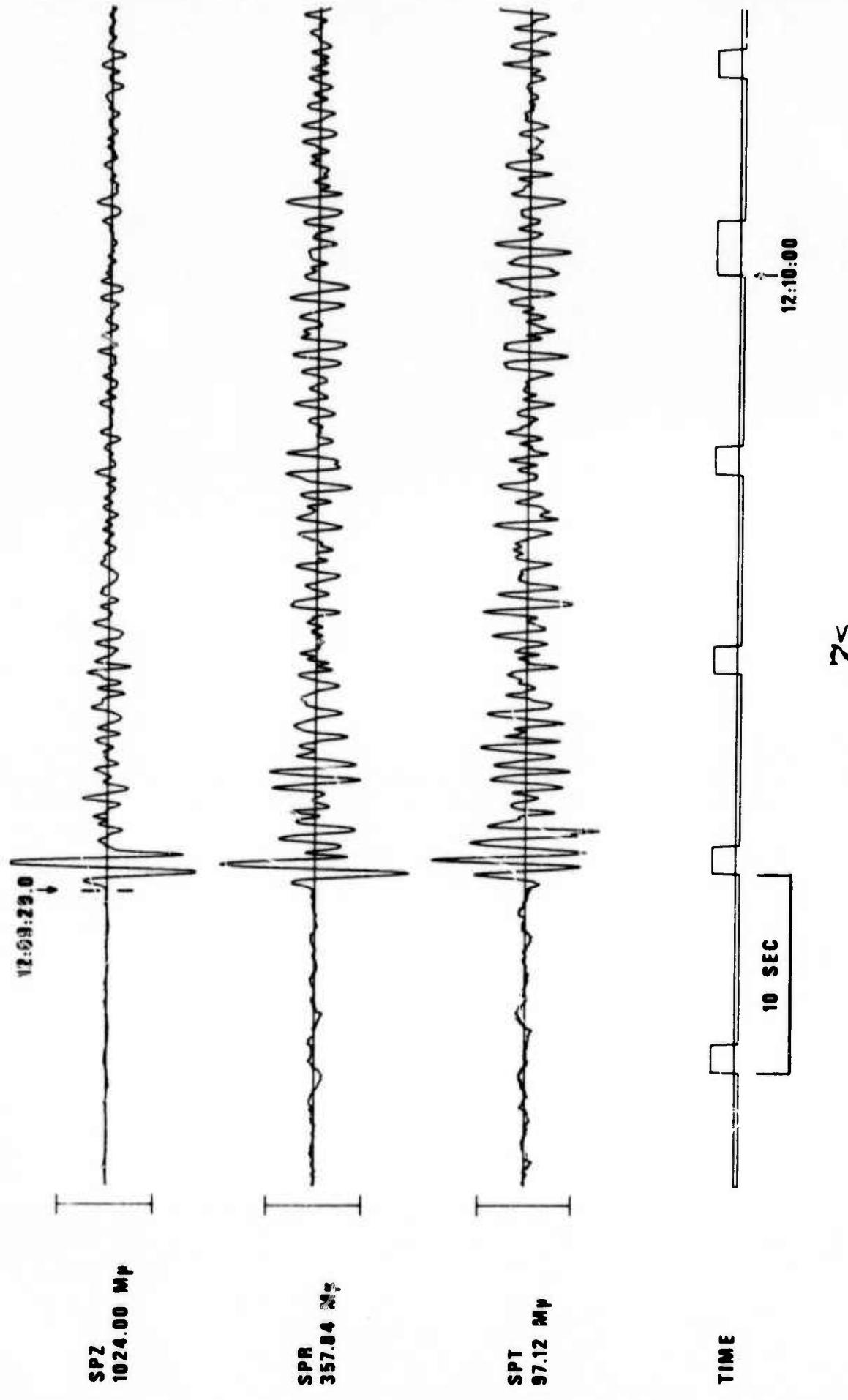


SPT
INOPERATIVE



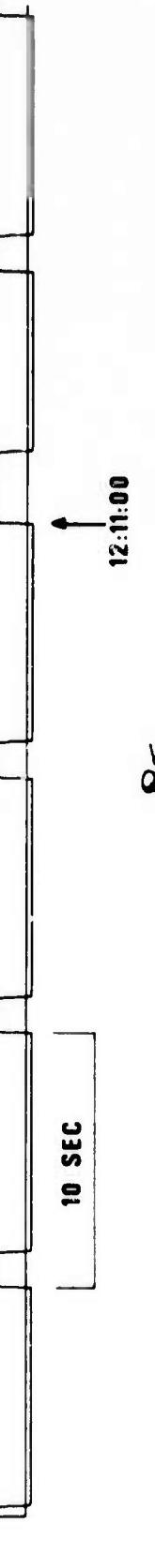
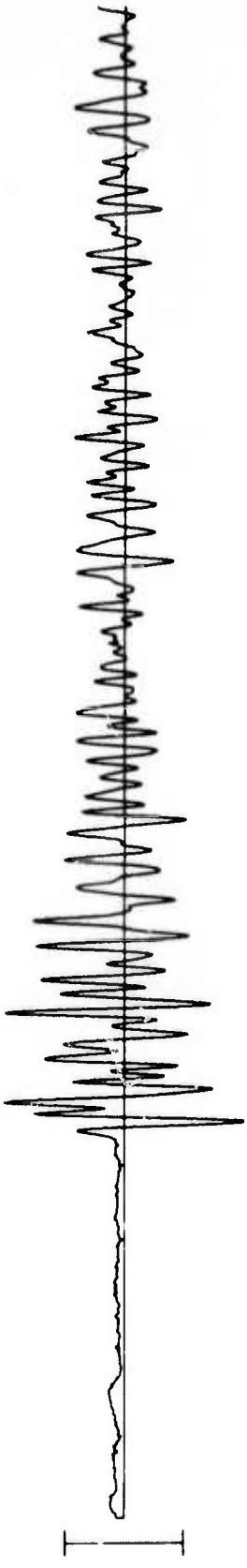
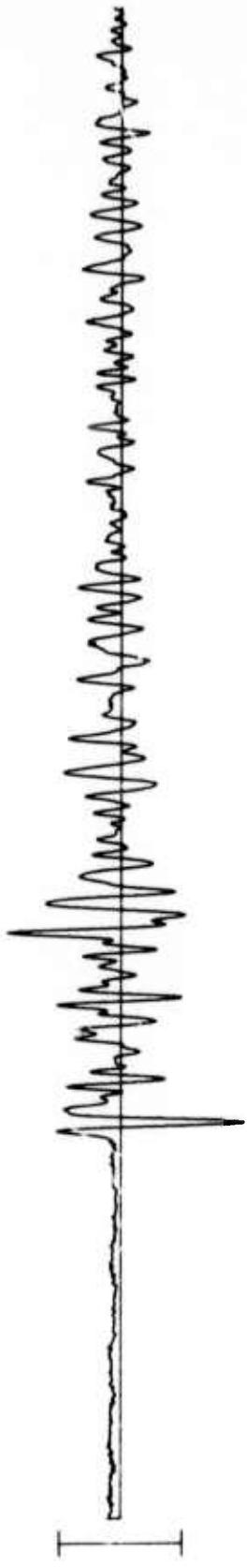
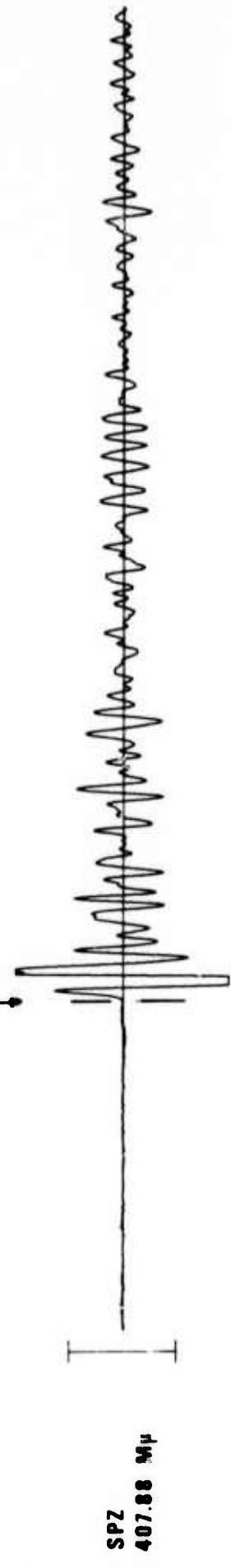
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HN-ME 21 OCT 75

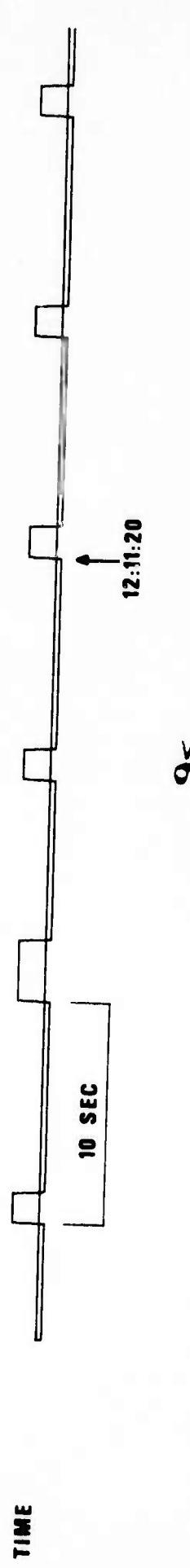
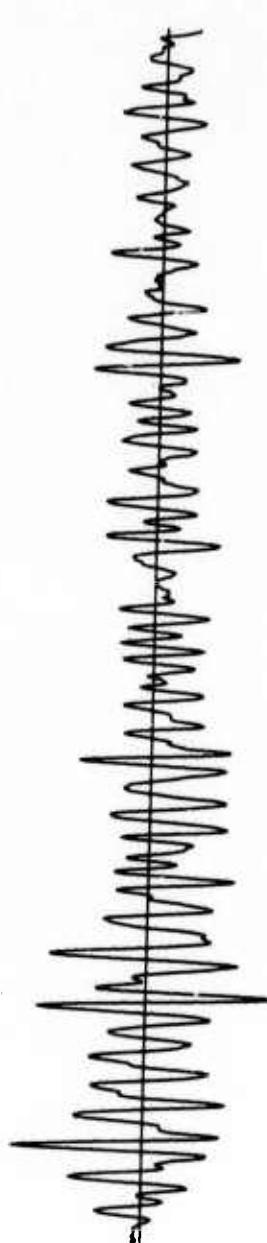


FN-WV 21 OCT 75

12:10:35.8



CPSO 21 OCT 75

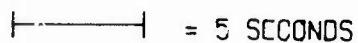


NORSAR EVENT FILE

1975 OCT 21

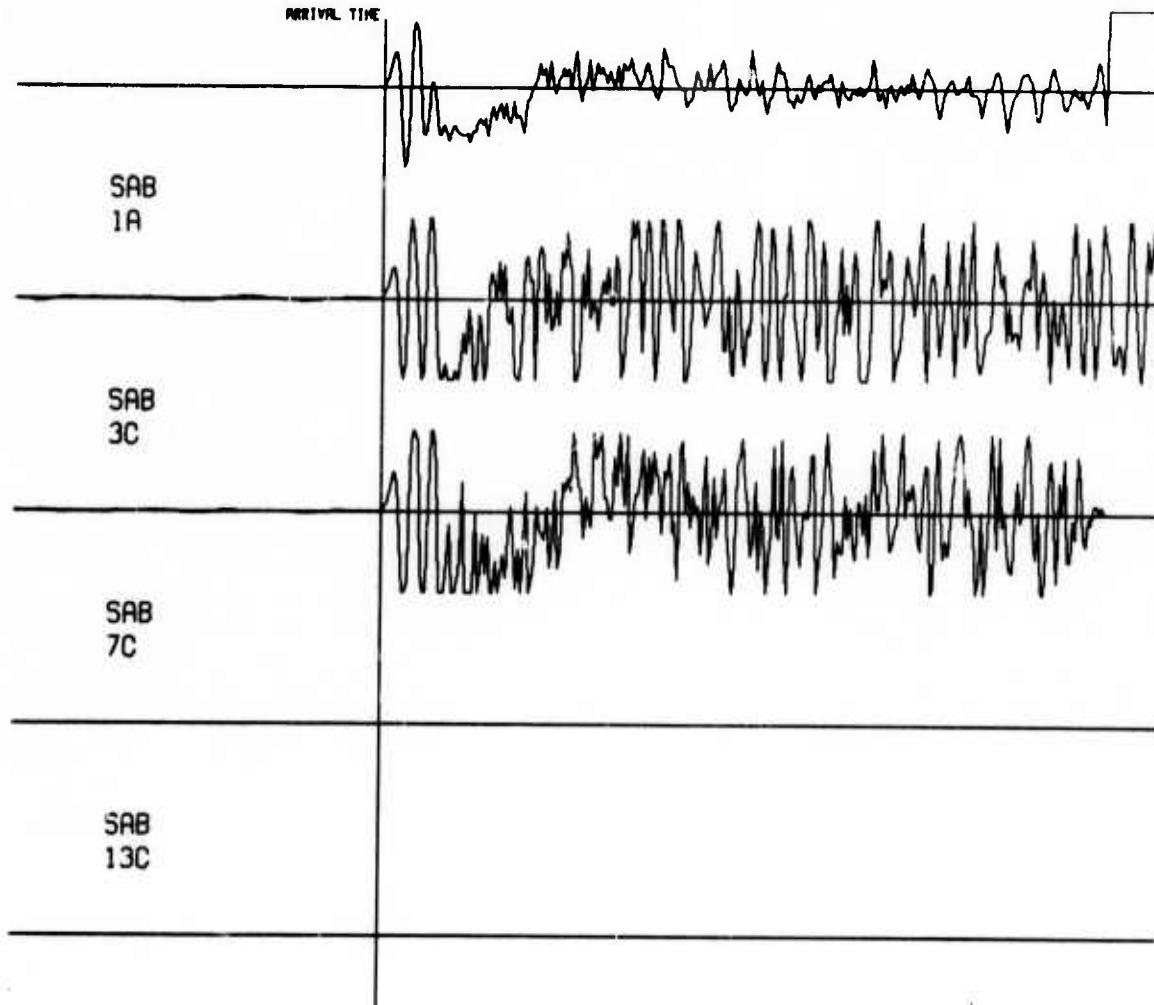
EPX NO. 26000 ARR. 12.4.37.4 73.4N 53.7E 5.2MB 23KM

DIST = 20.2 AZI = 34.4 AMP = 119.9 PER = 0.8

 = 5 SECONDS

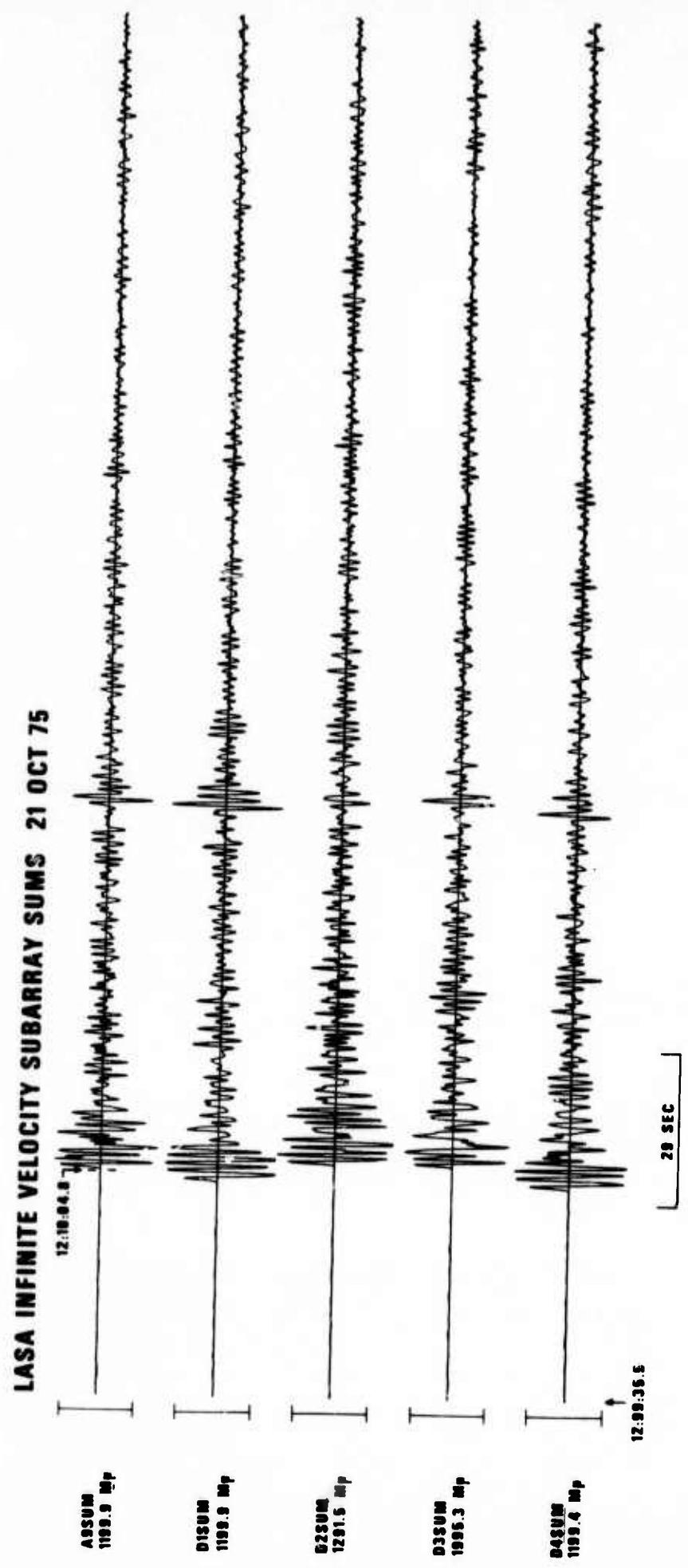
AB

ARRIVAL TIME

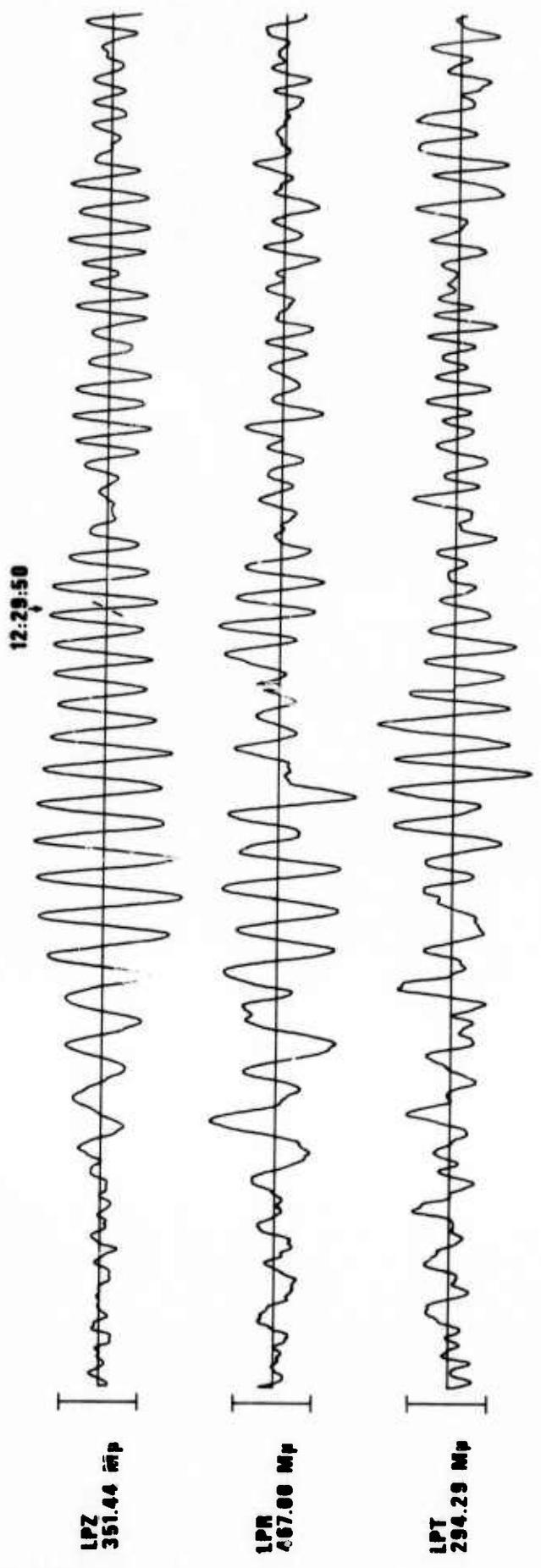


10<

V
1



WH2YK 21 OCT 75



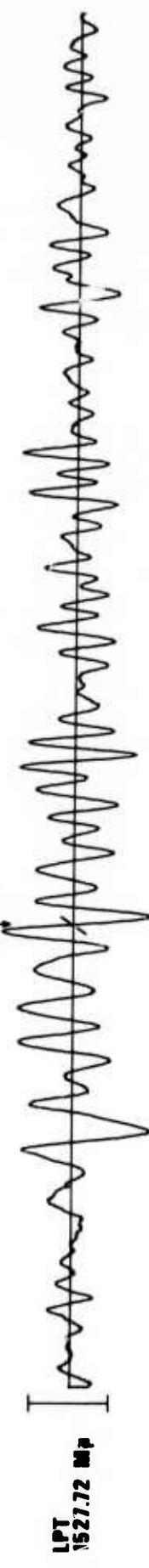
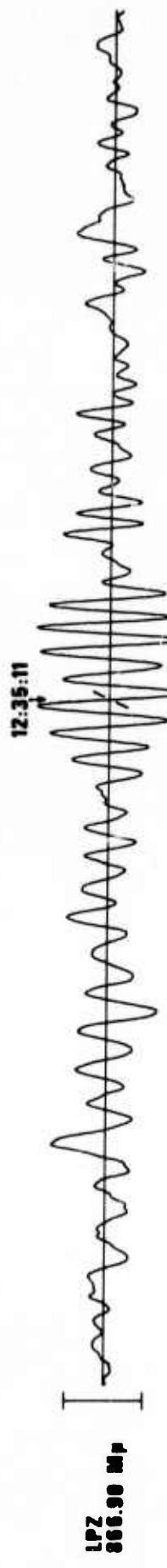
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2 MIN

12:30:00

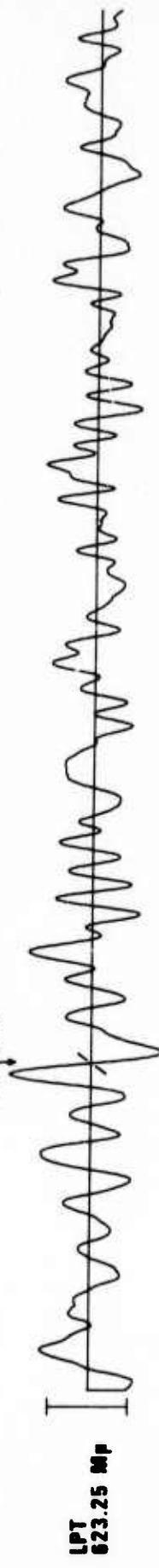
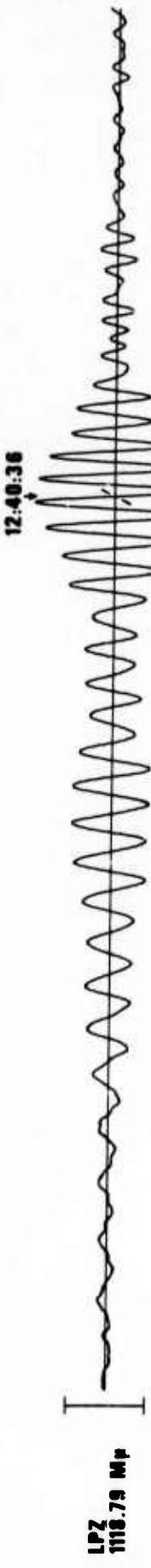
12<

NN-ME 21 OCT 75



13<

FM-WV 21 OCT 75



TIME

2 MIN

14 <

15<

12:40:00

2 min



TIME



LPT
620.34 ms

12:38:24



LPT
426.71 ms

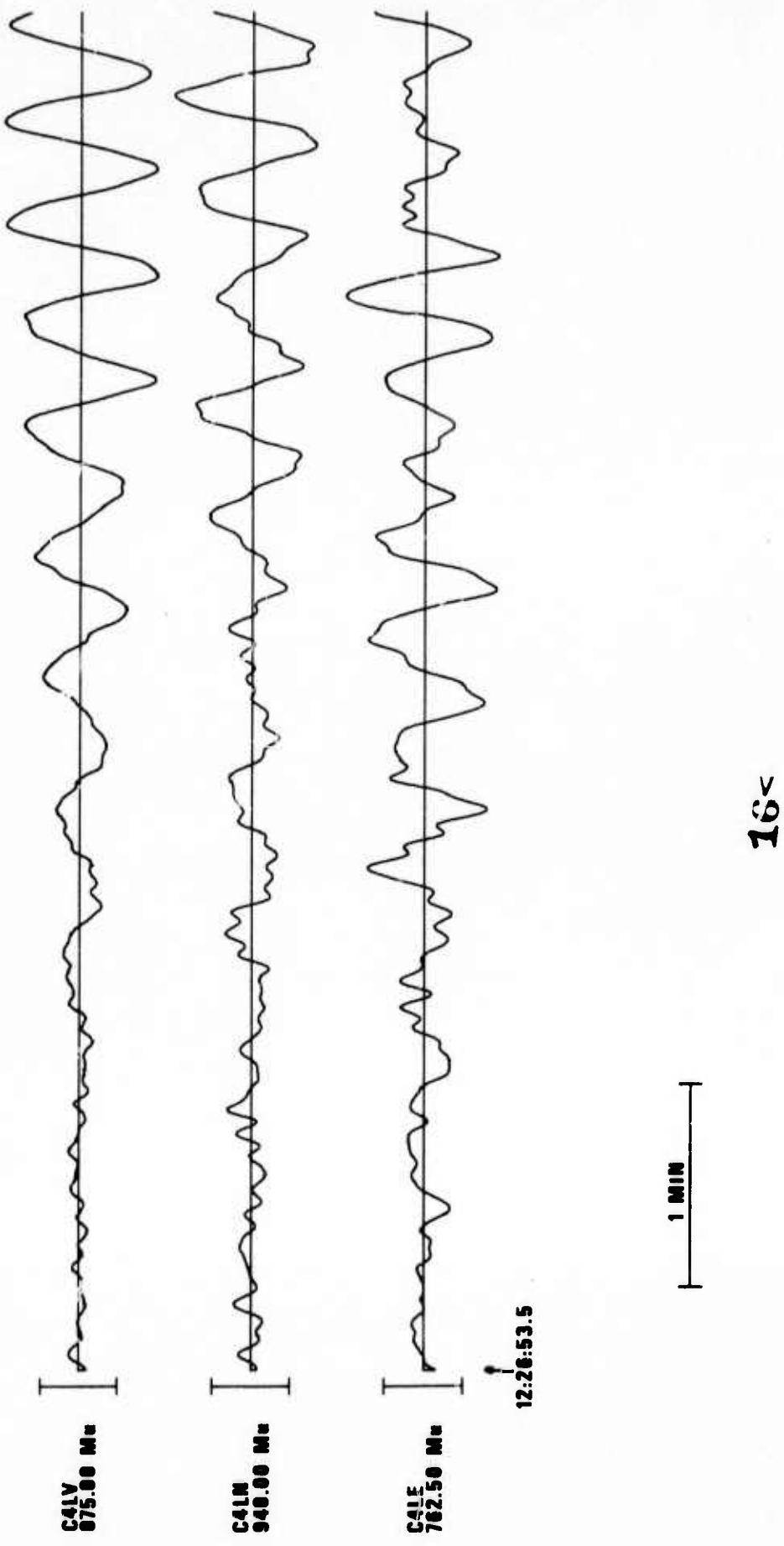


LPT
1642.30 ms

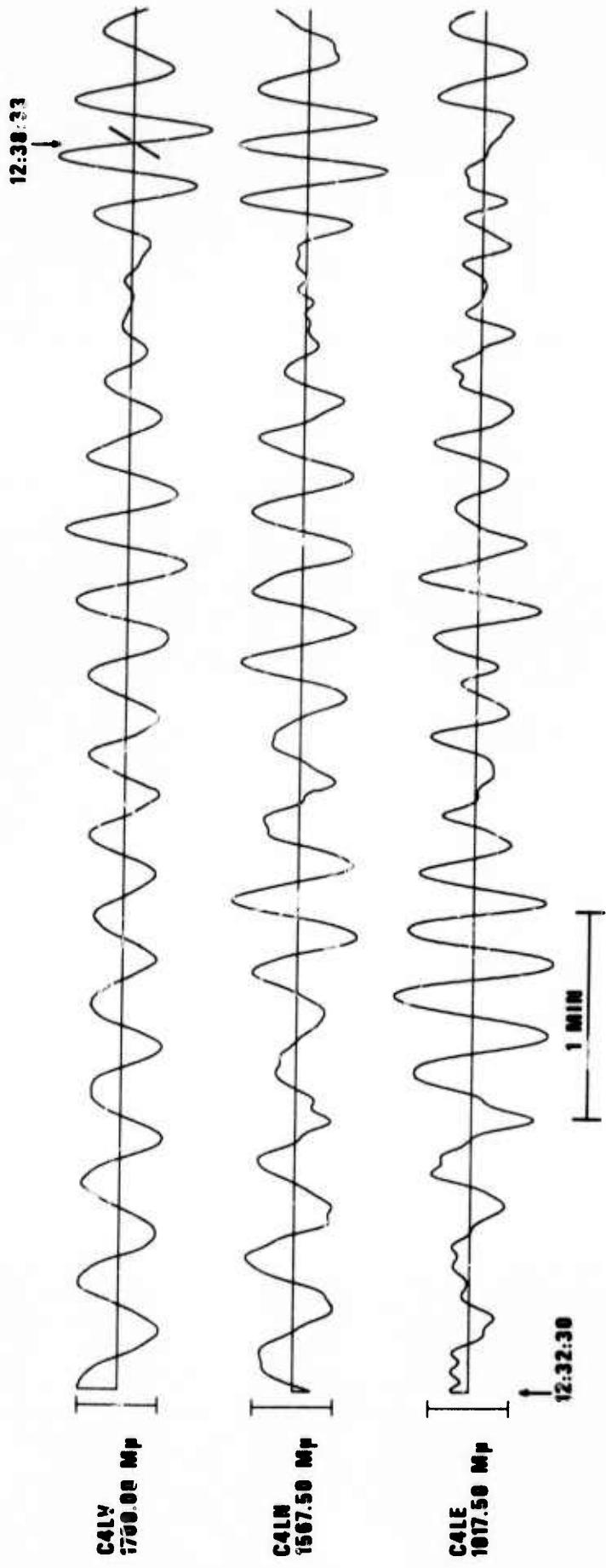
12:42:15

CPSO 21 OCT 75

LASA LONG PERIOD C4 SUBARRAY (SEGMENT 1) 21 OCT 75



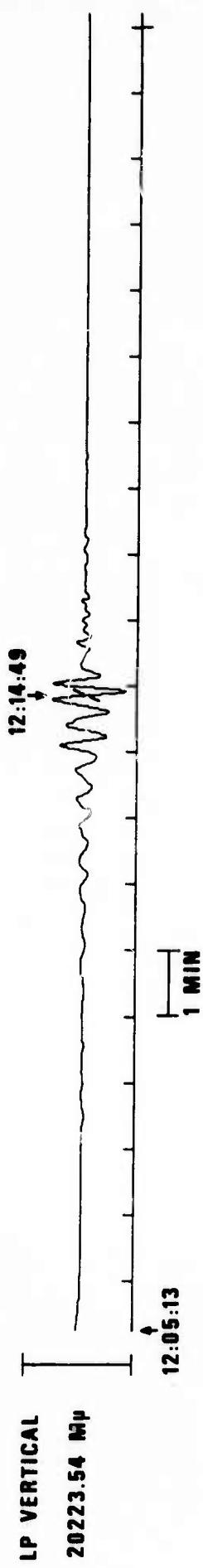
LASA LONG PERIOD C4 SUBARRAY (SEGMENT 2) 21 OCT 75



478

ARRAY LONG PERIOD VERTICAL RECORDS 21 OCT 75

NONSAR



ALPA

